COSMO BIO CO., LTD.
Inspiration for Life Science

MONOCLONAL ANTIBODY

For research use only. Not for clinical diagnosis.

Catalog No. BAM-70-031

Anti-XPA

BACKGROUND

XP (Xeroderma pigmentosum) is an autosomal recessive human disease characterized by hypersensitivity to sunlight and a high incidence of skin cancer on sun-exposed skin (1). Cells from XP patients are hypersensitive to killing by UV irradiation beause of a defect in nucleotide excision repair (NER). XP is classified into seven complementation groups (A~G) and a variant form (1). XPA shows the most severe symptoms. Products encoded by the XP genes function in repairing UV-induced cyclobutane pyrimidine dimmer and (6-4) photoproducts as well as chemically induced variety of DNA lesions (1).

XPA protein consists of 273 amino acids and forms a complexe with many proteins such as RPA, ERCC1, TFIIH、XAB1, and XAB2, which play a role in early step of NER. The hybrydoma 5F12 was constructed by Pro. K. Tanaka' group who first cloned the XPA gene (2, 3) .

Product type	Primary antibodies
Host	Mouse
Source	Ascites
Form	Liquid Purified IgG, 1 mg/ml in PBS pH 7.2, 50% glycerol
Volume	50 µg
Concentration	1 mg/ml
Specificity	human XPA protein
Antigen	Recombinant full-length human XPA protein
Clone	5F12
Isotype	IgG2b

Application notes

WB, ELISA, Inhibition of in vitro excision repair reaction / XPA interaction with ERCC1 and TFIIH　Other applications were not tested.

Recommended use

Recommended dilutions

Western blotting: 0.1~1 µg/ml

Optimal dilutions/concentrations should be determined by the end user.

Staining Pattern

Cross reactivity human (expected to react also with mouse XPA from the sequence homology)

Storage -20°C (long period; -70°C)

References

1) Friedberg EC et al., DNA Repair and Mutagenesis. 2nd Ed. ASM Press (2006)

2) SaijoM et al., Biochem Biophys Res Comm 321:815 (2004)

3) Tanaka K et al., Nature 348:73 (1990)

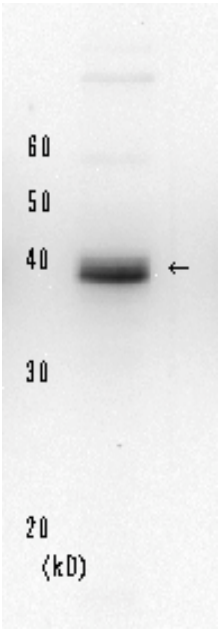

Fig. Detection of XPA protein in crude extract of HeLa cell by western blotting, using the monoclonal antibody 5F12.

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TOYO 2CHOME, KOTO-KU, TOKYO, 135-0016, JAPAN
URL: http://www.cosmobio.co.jp e-mail: export@cosmobio.co.jp
[Outside Japan] Phone : +81-3-5632-9617 [国内連絡先] Phone : +81-3-5632-9610
FAX : +81-3-5632-9618 FAX : +81-3-5632-9619

COSMO BIO CO., LTD.
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モノクローナル抗体

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Catalog No. BAM-70-031

抗 XPA

BACKGROUND

XP（Xeroderma pigmentosum;色素性乾皮症）は、常染色体劣性遺伝様式をとる遺伝性疾患で、日光に過敏性を示し、若年性皮膚癌を高頻度で発症する。 A～G 群、 7 つの遺伝的相補性群の存在が確認されて折り、XPA 変異は最も重症の症候を示す。 XP 群遺伝子群の産物は DNA 上に紫外線等によって形成されるシクロブタン 2 量体、6-4 光産物及び化学物質による種々の DNA 損傷部位に作用して、損傷を受けたヌクレオチドを取り除いて修復する除去修復機構（NER; Nucleotide Excision Repair）に関与する。
XPA（A 群）タンパク質は 273 アミノ酸より成り、RPA, ERCC1, TFIIH、XAB1, XAB2 タンパク質と複合体を形成し、損傷を受けた DNA 部位に特異的に結合し、除去修復を反応開始させる。 本ハイブリドーマは大阪大学田中亀代次教授等が作成した（文献 2）。

Product type	一次抗体
Host	マウス
Source	腹水
Form	液状 1 mg/ml in PBS pH 7.2, 50% glycerol 硫酸ナトリウム分画、カラムクロマトで精製
Volume	50 µg
Concentration	1 mg/ml
Specificity	XPA（A 群）タンパク質
Antigen	大腸菌で発現した全長の組換え体ヒト XPA タンパク質
Clone	5F12
Isotype	IgG2b

Application notes	WB, ELISA, Inhibition of in vitro excision repair reaction **Recommended use** 1） in vitro 除去修復反応の阻害（ニック導入の阻害） 2） XPA の ERCC1,TFIIH との結合阻害 免疫細胞・組織染色はテストしてない。 **Recommended dilutions** ウェスタンブロッティング: 0.1~1 µg/ml （図 1） Optimal dilutions/concentrations should be determined by the end user. **Staining Pattern**
Cross reactivity	ヒト、 マウス（配列の保存性から,not tested）
Storage	-20°C (長期保存, -70°C)
References	本抗体の作成及び利用は文献 2 に記載されている 1) Friedberg EC et al., DNA Repair and Mutagenesis. 2nd Ed. ASM Press (2006)

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2) SaijoM et al., Biochem Biophys Res Comm 321:815 (2004)

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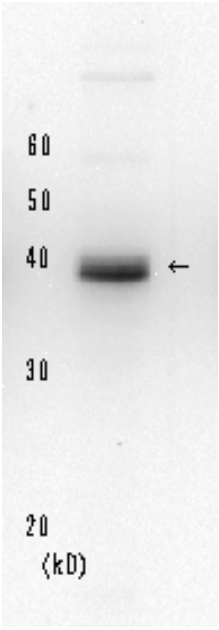

図. 1 HeLa 細胞抽出液中の XPA タンパク質のモノクローン抗体
5F12 を用いたウエスターンブロッテイングによる検出。

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[Outside Japan] Phone : +81-3-5632-9617 [国内連絡先] Phone : +81-3-5632-9610
FAX : +81-3-5632-9618 FAX : +81-3-5632-9619